



## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### Office of the Secretary

### Findings of Research Misconduct

**AGENCY:** Office of the Secretary, HHS.

**ACTION:** Notice.

**SUMMARY:** Findings of research misconduct have been made against Stuart G. Jarrett, Ph.D.

(Respondent), former research-track assistant professor, Department of Toxicology and Cancer Biology and Markey Cancer Center, University of Kentucky (UK) College of Medicine.

Respondent engaged in research misconduct under 42 CFR part 93 in research supported by U.S. Public Health Service (PHS) funds, specifically National Cancer Institute (NCI), National Institutes of Health (NIH), grants R01 CA131075 and T32 CA165990, National Center for Advancing Translational Sciences (NCATS), NIH, grant UL1 TR000117, and National Institute of Environmental Health Sciences (NIEHS), NIH, grant T32 ES007266. The administrative actions, including debarment for a period of four (4) years, were implemented beginning on July 18, 2022, and are detailed below.

### FOR FURTHER INFORMATION CONTACT:

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**SUPPLEMENTARY INFORMATION:** Notice is hereby given that the Office of Research Integrity (ORI) has taken final action in the following case:

Stuart G. Jarrett, Ph.D., University of Kentucky: Based on the evidence and findings of an

investigation conducted by UK, ORI's oversight review of UK's investigation, and additional evidence obtained and analysis conducted by ORI during its oversight review, ORI found that Dr. Stuart G. Jarrett, former research-track assistant professor, Department of Toxicology and Cancer Biology and Markey Cancer Center, UK College of Medicine, engaged in research misconduct under 42 CFR part 93 in research supported by PHS funds, specifically NCI, NIH, grants R01 CA131075 and T32 CA165990, NCATS, NIH, grant UL1 TR000117, and NIEHS, NIH, grant T32 ES007266.

ORI found by a preponderance of the evidence that Respondent intentionally, knowingly, or recklessly falsified and/or fabricated Western blot and histological image data related to mechanisms of melanoma protection by reusing, relabeling, and manipulating images or using blank panels to falsely report data in twenty-eight (28) figures included in four (4) PHS-supported published papers, one (1) funded PHS grant application, and two (2) unfunded PHS grant applications. ORI found that these acts constitute a significant departure from accepted practices of the relevant research community. The affected papers and grant applications are:

- PKA-mediated phosphorylation of ATR promotes recruitment of XPA to UV-induced DNA damage. *Mol. Cell* 2014 Jun 19;54(6):999-1011; doi: 10.1016/j.molcel.2014.05.030 (hereafter referred to as “*Mol. Cell* 2014”).
- AKAP12 mediates PKA-induced phosphorylation of ATR to enhance nucleotide excision repair. *Nucleic Acids Res.* 2016 Dec 15;44(22):10711-26; doi: 10.1093/nar/gkw871 (hereafter referred to as “*Nucleic Acids Res.* 2016”). Retraction in: *Nucleic Acids Res.* 2020 Nov 18; 48(20):11814; doi: 10.1093/nar/gkaa984.
- Sirtuin 1-mediated deacetylation of XPA DNA repair protein enhances its interaction with ATR protein and promotes cAMP-induced DNA repair of UV damage. *J. Biol. Chem.* 2018 Dec 7; 293(49): 19025-37; doi: 10.1074/jbc.RA118.003940 (hereafter referred to as “*JBC* 2018”). Retraction in: *J. Biol. Chem.* 2021 Jan-Jun;296:100185; doi: 10.1016/j.jbc.2020.100185.
- The melanocortin signaling cAMP axis accelerates repair and reduces mutagenesis of platinum-induced DNA damage. *Sci. Rep.* 2017 Sep 15;7(1):11708; doi: 10.1038/s41598-017-12056-5 (hereafter referred to as “*Sci. Rep.* 2017”). Retraction in: *Sci. Rep.* 2021 Jan 7;11(1):847; doi: 10.1038/s41598-020-80467-y.
- R01 CA131075-06, “Defining the contribution of ATR to MC1R-enhanced DNA repair in melanocytes,” submitted to NCI, NIH, on July 1, 2014 (not funded).
- R01 CA131075-06A1, “Defining the contribution of ATR to MC1R-enhanced DNA repair in melanocytes,” submitted to NCI, NIH, on March 2, 2015, Funded Project Dates: July 1, 2010-March 31, 2022.

- R01 CA207312-01, “Defining mechanisms of MC1R-enhanced nucleotide excision repair in melanocytes,” submitted to NCI, NIH, on October 1, 2015 (not funded).

Specifically, ORI found by a preponderance of the evidence that Respondent engaged in research misconduct by intentionally, knowingly, or recklessly falsifying and/or fabricating:

- Western blot images in Figures 7D and 7E of *Mol. Cell* 2014 by reusing, manipulating, and relabeling an image to falsely represent different experiments in UV-untreated cells in Figure 7D and in UV-treated cells in Figure 7E
- Western blot images in Supplemental Figure 3C of *Mol. Cell*. 2014 by reusing, manipulating, and relabeling a blot panel image to falsely represent different experiments involving [6-4]-photoproducts and XPA
- confocal microscopic images of melanocytes in Figure 1C of *Nucleic Acids Res.* 2016 by inserting a blank image panel to falsely represent the absence of proximity ligation assay (PLA) signal in a negative control experiment when the original image showed PLA signal

- confocal microscopic images of melanocytes in Figure 5B of *Nucleic Acids Res.* 2016, by inserting blank image panels to falsely represent UV-untreated control experiments, and the quantification reported in Figure 5C that was derived from falsified and/or fabricated images in Figure 5B
- confocal microscopic images of melanocytes in Figure 6A of *Nucleic Acids Res.* 2016, by inserting blank image panels to falsely represent the absence of PLA signal in negative control experiments when the original images showed PLA signal, and the quantification reported in Figure 6C that was derived from falsified and/or fabricated images in Figure 6A
- confocal microscopic images of melanocytes in Figure 6B of *Nucleic Acids Res.* 2016, by inserting blank image panels to falsely represent UV-untreated control experiments, and the quantification reported in Figure 6C that was derived from falsified and/or fabricated images in Figure 6B
- confocal microscopic images of melanocytes in Figure 6D of *Nucleic Acids Res.* 2016, by inserting blank image panels to falsely represent no PLA signal in control experiments when the original images showed PLA signal, and the quantification reported in Figure 6F that was derived from falsified and/or fabricated images in Figure 6D
- confocal microscopic images of melanocytes in Figure 6E of *Nucleic Acids Res.* 2016, by inserting blank image panels to falsely represent UV-untreated control experiments, and the quantification reported in Figure 6F that was derived from falsified and/or fabricated images in Figure 6E

- confocal microscopic images of melanocytes in Figure 6G of *Nucleic Acids Res.* 2016 by inserting blank image panels to falsely represent the absence of nuclear localization of XPA, AKAP12, and ATR-pS435 in unirradiated cells transfected with wild-type AKAP12 when the original images showed positive signal
- confocal microscopic images of melanocytes in Figure 6H of *Nucleic Acids Res.* 2016 by inserting blank image panels to falsely represent the absence of nuclear localization of XPA, AKAP12, and ATR-pS435 in unirradiated cells transfected with mutant AKAP12 when the original images showed positive signal
- confocal microscopic images of melanocytes in Figure 5A of *Sci. Rep.* 2017, by inserting blank image panels in the top row, panels 1 and 4, to falsely represent negative control experiments, and the quantification reported in Figure 5B that was derived from falsified and/or fabricated images in Figure 5A
- confocal microscopic images of melanocytes in Figure 1A, top row, panels 1, 3, 5, and 7, of *JBC* 2018, by inserting blank image panels to represent negative control experiments, and the quantification in Figure 1B that was derived from falsified and/or fabricated images in Figure 1A
- confocal microscopic images of melanocytes in Figure 2B of *JBC* 2018 by using two different cells from the same source image to falsely represent different experimental results: a cell for control conditions (top row, panel 1) and another cell to represent the outcome of the treatment conditions (top row, panel 8), as well as the quantification reported in Figure 2C that was derived from falsified and/or fabricated images in Figure 2B

- confocal microscopic images of melanocytes in Figure 3D of *JBC* 2018 by using two different cell images from the same source image to falsely represent different experimental results in: XPA-K215Q transfected cells without forskolin (column 3, rows 1 and 2 of lower right set of panels) and XPA-K215Q transfected cells with forskolin (column 4, rows 1 and 2 of lower right set of panels), and the quantification reported in Figure 3D that was derived from falsified and/or fabricated images in Figure 3D
- confocal microscopic images of melanocytes in *JBC* 2018 Figure 3D, column 1, rows 1 and 2, of “XPA-WT” set of panels, and in *JBC* 2018 Figure 3D, column 1, rows 1 and 2, of “XPA-K63Q” set of panels, by using the same image field to represent UV untreated cells “XPA-WT” and “XPA-K63Q” mutant, and the quantification reported in Figure 3D that was derived from falsified and/or fabricated images in Figure 3D
- confocal microscopic images of melanocytes in Figure 2D (images in column 1, rows 1 and 3) of *Mol. Cell* 2014 by reusing, manipulating, and relabeling an image to falsely represent the absence of [6-4]-PP in both vehicle-treated cells and forskolin-treated cells in negative control experiments
- confocal microscopic images of melanocytes in Figure 7C of *Mol. Cell* 2014 (and in Figure 2F of R01 CA207312-01, Figure 5A of R01 CA131075-06, and Figure 3B of R01 CA131075-06A1), by inserting blank image panels to falsely represent forskolin-treated cells and untreated cells without UV exposure, and the quantification reported in Figure 7C and Figure 5A of R01 CA131075-06 that was derived from falsified and/or fabricated images in Figure 7C

- confocal microscopic images of melanocytes in Figure 4E of R01 CA131075-06A1 and Figure 4C of R01 CA207312-01 by using cell images from the same source micrograph to falsely represent cAMP-augmented interaction between pS435-ATR and AKAP12

The following administrative actions have been implemented:

- (1) For a period of four (4) years, beginning on July 18, 2022, Respondent is debarred from participating in “covered transactions” as defined in 42 CFR § 180.200 and procurement transactions covered under the Federal Acquisition Regulation (48 CFR chapter 1).
- (2) Respondent is prohibited from serving in any advisory capacity to PHS including, but not limited to, service on any PHS advisory committee, board, and/or peer review committee, or as a consultant for a period of four (4) years, beginning on July 18, 2022.
- (3) In accordance with 42 CFR §§ 93.407(a)(1) and 93.411(b), HHS will send to the journal *Molecular Cell* a notice of ORI’s findings and the need for retraction of *Mol. Cell* 2014 Jun 19;54(6):999-1011; doi: 10.1016/j.molcel.2014.05.030.

**Dated:** August 8, 2022.

**Wanda K. Jones,**

*Acting Director, Office of Research Integrity,*

*Office of the Assistant Secretary for Health.*

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